

CLAIMS:

1. An electrophoretic display panel (1),
comprising:
 - an electrophoretic medium (5) comprising charged particles (6);
 - a plurality of picture elements (2);
 - 5 - electrodes (3,4) associated with each picture element (2) for receiving a potential difference,
the charged particles being able to occupy extreme positions near the electrodes and intermediate positions in between the electrodes; the extreme positions being associated with extreme optical states; and
 - 10 - drive means (100) ,
the drive means (100) being arranged for providing to each of the plurality of picture elements (2)
 - a reset potential difference having a reset value and a reset duration for causing the charged particles (6) to substantially occupy one of the extreme positions, and
 - 15 thereafter
 - a grey scale potential difference for causing the particles (6) to occupy the position corresponding to the image information, and
 - a series of shaking potential differences during a shaking time period (P_{shaking}) in between application of the reset potential difference and the grey scale potential
 - 20 difference, wherein the plurality of picture elements comprises two or more interspersed groups (A, B) of picture elements, and the drive means (100) are arranged to provide each group of picture elements with its own application scheme (I, II) of shaking potential differences, the application schemes (I, II) for shaking potential differences differing from group to group in such a manner that the shaking time periods (P_{shaking}) at which the shaking
 - 25 potential differences are applied to said groups (A, B) do not, during a time difference (Δ), completely coincide for at least some transitions of a picture element from an initial optical state to a final optical state via an extreme optical state , the time difference (Δ) being at least 25% of the longest shaking time period for the respective groups ($\Delta \geq 0.25P_{\text{shaking}}$).

2. An electrophoretic display device as claimed in claim 1, characterized in that the time difference (Δ) is at least 50% of the longest shaking time period ($\Delta \geq 0.5P_{\text{shaking}}$).
3. An electrophoretic display device as claimed in claim 1, wherein
5 the drive means (100) are arranged to provide shaking potential differences such that the application schemes (I, II) for application of the shaking potential differences alternate between groups (A, B) between frames.
4. An electrophoretic display device as claimed in claim 1, wherein the shaking
10 time periods (P_{shakingI} , $P_{\text{shakingII}}$) for the groups are of equal length.
5. An electrophoretic display device as claimed in claim 1, wherein the shaking time periods for different groups differ ($P_{\text{shakingI}} \neq P_{\text{shakingII}}$).
- 15 6. An electrophoretic display panel as claimed in claim 1, wherein the drive means are arranged to provide each group with its own shaking potential differences, the application schemes (I, II) for shaking potential differences differing from group to group by a fixed time difference independent of the transition (Δ).
- 20 7. An electrophoretic display panel as claimed in claim 1, wherein the drive means are arranged such that the application schemes (I, II) between groups of picture elements differ in that a time difference (Δ') is established between groups for those transitions (G2-B, G1-B, B-B), in which the combination of a reset potential difference followed by a shaking pulse is applied during less than a maximum period, but, for all groups
25 of elements application of a combination of a reset potential difference of maximum time length (W-B) followed by a shaking pulse are synchronized within a maximum time period having a common starting point (t_{start}) and an end point (t_{end}), and for all groups and transitions the application of reset potential differences does not extend beyond said maximum time period ($t_{\text{start}}-t_{\text{end}}$).
- 30 8. A method for driving an electrophoretic display devices comprising a plurality of picture elements in which method reset potential differences are applied to picture elements of the display device, prior to application of grey scale potential differences to said picture elements, wherein in between application of reset potential difference and grey scale

potential difference shaking potential differences are applied during a shaking time period (P_{shaking}) wherein the plurality of picture elements comprises two or more interspersed groups of picture elements, and each group (A, B) of picture elements is supplied with its own application scheme (I, II) of shaking potential differences, the application schemes for shaking potential differences differing from group to group in such a manner that the shaking time periods (P_{shaking}) at which the shaking potential differences are applied to said groups (A,B) do not, during a time difference (Δ), completely coincide for at least some transitions of a picture element from an initial optical state to a final optical state via an extreme optical state, the time difference (Δ) being at least 25% of the longest shaking time periods for the respective groups ($\Delta \geq 0.25P_{\text{shaking}}$).

9. A method as claimed in claim 8, wherein the shaking potential differences are applied such that the application schemes for application of the shaking signals alternate between groups between frames.

10. A method as claimed in claim 8, wherein each group is supplied with its own scheme for shaking potential difference, the application schemes for shaking potential differences differing from group to group by a fixed time difference independent of the transition (Δ).

11. Computer program comprising program code means for performing a method in accordance with the method as claimed in claim 8 when said program is run on a computer.

12. Computer program product comprising program code means stored on a computer readable medium for performing a method in accordance with the method as claimed in claim 8 when said program is run on a computer.